

REMARKS

The Applicants have carefully considered the objections raised by the Examiner in the outstanding Office Action mailed September 1, 2004, and in view of the position enunciated by the Examiner, the pending claims have been substantially amended. In this response, the Applicants have amended the pending claims in a manner which is believed to overcome the rejection raised by the Examiner, placing amended Claim 1 in condition for allowance.

In this pending patent application, the Applicants have elected Group I in response to the restriction requirement made by the Examiner. The selection of Group I, which contains Claims 1 and 2, is hereby confirmed and Claims 3-9 have been formally canceled from this application, without prejudice. Furthermore, in the foregoing Amendment, the limitations previously contained in Claim 2 have been incorporated into Claim 1, with Claim 2 being canceled. As now amended, the Applicants believe that Claim 1 unequivocally defines a resist polymer which is not in any way taught or suggested in the cited references.

As now presented, Claim 1 defines a resist polymer having a repeating unit which has a structure which is decomposed by an acid to become soluble in an alkali developer and a repeating unit having a polar group to enhance adhesion to a substrate. Furthermore, the resist polymer is defined as being produced by radical copolymerization with a solution containing polymerizable monomers and a solution

containing a polymerization initiator with those solutions being retained in independent storage tanks for being supplied into a polymerization system continuously or intermittently. Finally, the resist polymer is defined as being characterized by having a peak area of a high molecular weight component (high polymer) with a molecular weight of 100,000 or more which is 0.1% or less based on an entire peak area in a molecular weight distribution determined by gel permeation chromatography. As detailed below, the Applicants believe that the resist polymer defined in Claim 1 clearly distinguishes the prior art references.

The Applicants believe that the use of radical copolymerization, as defined in Claim 1, causes the resulting resist polymer to be produced with minimal high polymer content. This is directly contrary to the prior art references, wherein the resist polymer produced by these prior art methods contains the high polymer.

In the detailed disclosure of the present invention, starting in on page 27 and continuing through to page 34, examples of the present invention are fully detailed, along with a comparison of these examples with the prior art. In addition, on page 35, Table 1 provides a comparison of the prior art with the present invention.

Finally, on page 36, a summary of the results achieved is provided. As is evident from a review of this disclosure, the high polymer is generated using the conventional prior art methods, while the present invention resulted in no high polymer being generated. As a result, as detailed therein, a substantially improved resist polymer having excellent physical properties is attained.

In regard to the prior art references upon which the Examiner has relied, Nozaki discloses a resist polymer which is contrary to the resist polymer now defined in amended Claim 1. In Nozaki, the resist polymer therein defined becomes insoluble by a reaction with acid. Furthermore, although the resist polymer disclosed in this reference is produced by radical polymerization, the resist polymer is a negative-type resist polymer having a composition which is completely different from the composition of the resist polymer produced by the present invention. Furthermore, there is no teaching or suggestion in Nozaki regarding "retaining a solution containing polymerizable monomers and a solution containing a polymerization initiator in respectively independent storage tanks and supplying into a polymerization system continuously or intermittently", as specifically defined in amended Claim 1 of the present invention.

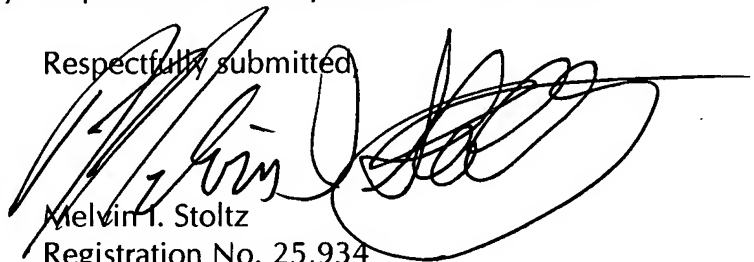
In addition, the resist polymers disclosed in Toshi and Nishimura are produced by other methods, with no teaching or suggestion being found in these references regarding the production of a resist polymer by radical polymerization, as required in Claim 1. Furthermore, the monomers used in Toshi and Nishimura are different from the monomers employed in the present invention.

For the foregoing reasons, the Applicants believe that Claim 1, as now amended, clearly and unequivocally distinguishes the prior art references cited by the Examiner and that Claim 1 is now in condition for allowance.

Claim 10 has been added as a new dependent claim adding a novel combination to Claim 1. For this reason, as well as a reasons detailed above in reference to Claim 1, the Applicant's belief that Claim 10 is also in condition for allowance. For the Examiner's information, the supporting disclosure for the feed time defined in newly added Claim 10 can be found in the disclosure on page 24 lines at 9-11.

Based upon the foregoing Amendment and the arguments presented herein, the Applicants believe that Claims 1 and 10 are now in condition for allowance and an early notice of allowability is earnestly solicited. If any questions remain which may be resolved by a telephone interview, Applicants' undersigned Attorney would gladly discuss such issues with the Examiner at the Examiner's convenience. For this purpose, Applicants' undersigned Attorney has provided his telephone number below.

Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to read 'Melvin I. Stoltz', is written over the typed name and registration number.

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